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Electronic Resources: Use and User Behavior. Edited by Hemalata Iyer. New York, NY: Haworth Press, 1998. (Published simultaneously as **The Reference Librarian**, v. 28, no. 60.) 145 p. \$39.95. ISBN 0-7890-0372-4. ©

In this volume, contributors focus on Internet resources and geographic information systems (GIS) as these newest of library services present system management and user assistance challenges. This slim volume consists of four sections with a total of seven articles covering a variety of topics including theoretical models of user interaction, studies of user searching behavior, and management of electronic resources.

The first section covering Internet resources contains a paper that reviews theories developed to explain the kind of mental processes required to use information systems and that looks at promising new theories for "identifying users' internal states of being as they seek information" (p. 22). The authors argue that the library and information profession "must improve its understanding of the cognitive

and contextual needs of information seekers" (p. 21). Methodologies for studying user behavior reviewed in this section include experiments, interview techniques, written user surveys, transaction log analysis, unconscious cognition, usability studies, and verbal protocol analysis.

The second section covers Internet organization and searching. The first of three articles in this section evaluates the retrieval effectiveness of eight major search engines. The Open Text system is rated best for twenty-one actual reference questions used and Infoseek for five made-up subject questions. A second article in this section discusses applying the features of maps to the organization and arrangement of Internet resources in order to produce visual maps of the Web. This section's final article examines Web search tactics (some similar to online searching, others unique to the Web) and problems such as too much or too little retrieval.

The third section on GIS contains an excellent introduction to these systems and their use and makes a comparison with library map rooms. The concluding section contains two articles that discuss managing reference services in the electronic age, and user attitudes toward print and electronic resources.

This volume is an interesting collection of articles covering a wide range of topics. Given that a major focus is on Internet resources, the studies on Internet searching unfortunately suffer by being out of date by the time they are published. For example, the study of the eight search engines and the answers they produced for reference and subject queries could not include two of the newer search engines, Hotbot and Northern Lights. The winner, Open Text, no longer operates as a general search engine. Also, there are few references after 1996. The authors acknowledge the limits on these studies, particularly the fact that they have examined an undergraduate population at a single campus and academic library, and essentially present snapshots in time. While there are suggestions for further research and new methodologies to study users and their behaviors in an electronic environment, throughout this volume there is little of direct interest to medical librarians. On a minor aside—despite what the publisher's promotional literature says, anyone seeking information on how to access China's legal literature will not find it in this book, nor will they find the advertised section on customer service skills.

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